



ecology and environment, inc.

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International Specialists in the Environment

MEMORANDUM

TO: Paul Doherty, ARPO

THRU: John Caoile, FIT-OM

FROM: Nancy Kepko, E&E/FIT *NA*

DATE: May 11, 1987

SUBJECT: Data Analysis Report for the sampling conducted at the
Rowe Nursery Site located in Sunset Hills, MO.
TDD #F-07-8704-27 PAN #FM00449SIA
Site #0S8 Project #001
Superfund Contact: Gene Gunn

Rowe Nursery
MOD 980973101

1.3

E&E

5/11/87

INTRODUCTION

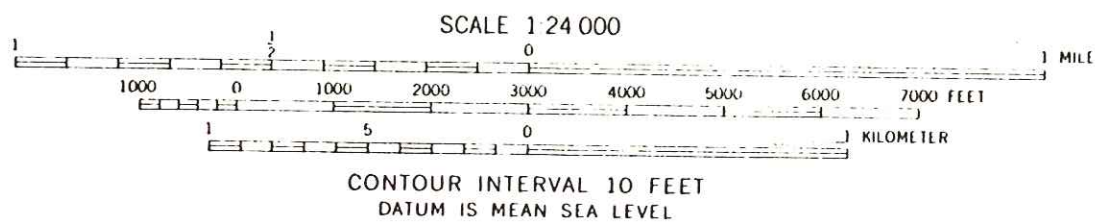
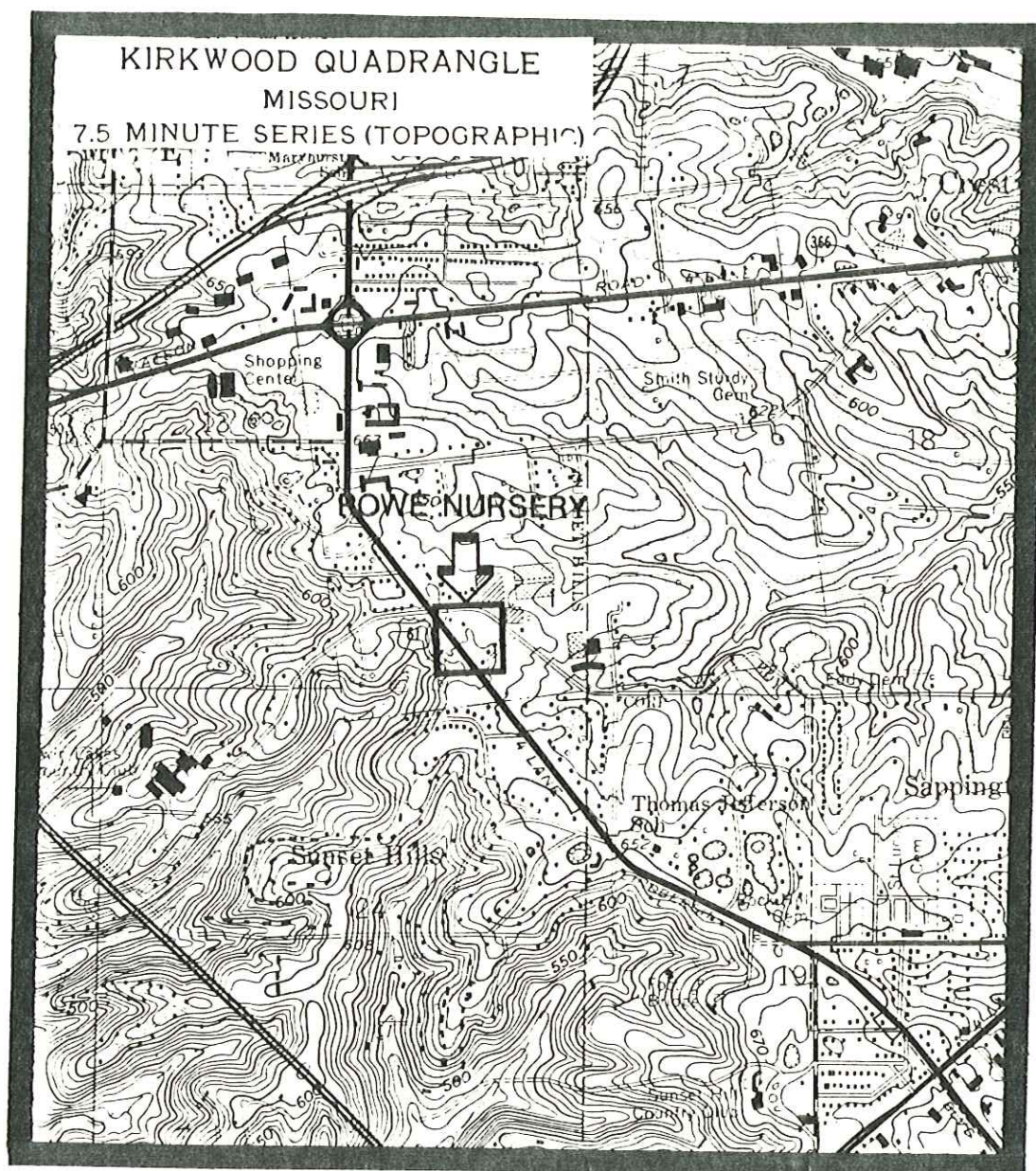
The Ecology and Environment, Inc. Field Investigation Team (E&E/FIT) was tasked under Technical Directive Document (TDD) F-07-8704-27 to prepare a data analysis report for the sampling conducted at the Rowe Nursery site located in Sunset Hills, MO (Figure 1). The sampling was conducted on the 26th and 29th of January and involved the collection of six surface soil samples, one foundation sample and two samples from the underground storage tank.

SITE HISTORY

Mr. Vernon Rowe operated the Rowe Nursery from approximately 1962 until 1973. The property is currently a vacant lot. During the 11 years of operation, fuel oil was contained in a 25,000 gallon underground storage tank; the oil was burned to provide heat for the nursery operations. Mr. William Rowe, a former site supervisor, indicated that #5 and #6 fuel oil were used on-site. All fuel oil was purchased from Standard Oil, according to Mr. Rowe. The property was sold in 1980 to a Mr. Schoor and Mr. Frost. The two houses and the furnace stack that existed on the property have subsequently been demolished.

In 1984, an anonymous complaint was received by the Public Works Director of Ellisville, Missouri indicating that waste oil believed to be contaminated with 2,3,7,8-TCDD was delivered by Mr. Russell Bliss to the Rowe Nursery in early 1970 and was subsequently used for heating fuel by the nursery. The complaint was forwarded to the St. Louis regional office of the Missouri Department of Natural Resources (MDNR/SLRO). Interviews conducted by MDNR/SLRO personnel with current and past owners of the property generated conflicting information concerning the presence of 2,3,7,8-TCDD contaminated oil at the nursery.

Figure 1: Rowe Nursery Site Location Map



The Region VII Environmental Protection Agency (EPA) attempted to collect samples from the Rowe Nursery site during the Phase XVI dioxin sampling activities conducted in November, 1984. Access to the property was delayed until the dismantling of the nursery's furnace stack was completed. Difficulties encountered in the removal of the stack forced EPA to delay the sampling until January, 1987.

SAMPLING ACTIVITIES

The investigation of the Rowe Nursery site was conducted on the 26th and 29th of January, 1987. The investigation was designed to determine if 2,3,7,8-TCDD contamination is present at the site. A total of six surface soil samples, one foundation sample and two samples from the underground storage tank were collected and analyzed for 2,3,7,8-TCDD (Figure 2).

Soil Sampling

Six multiple aliquot soil samples were collected at a depth of 0 to 6 inches around the perimeter of the furnace and storage tank on January 26, 1987. Each sample was collected in the following manner:

- ° Each aliquot was excavated to a depth of 6 inches using a pick axe.
- ° A stainless steel spoon was used to place each aliquot in a disposable aluminum pan.
- ° The sample was thoroughly mixed and placed in an 8 ounce glass jar.

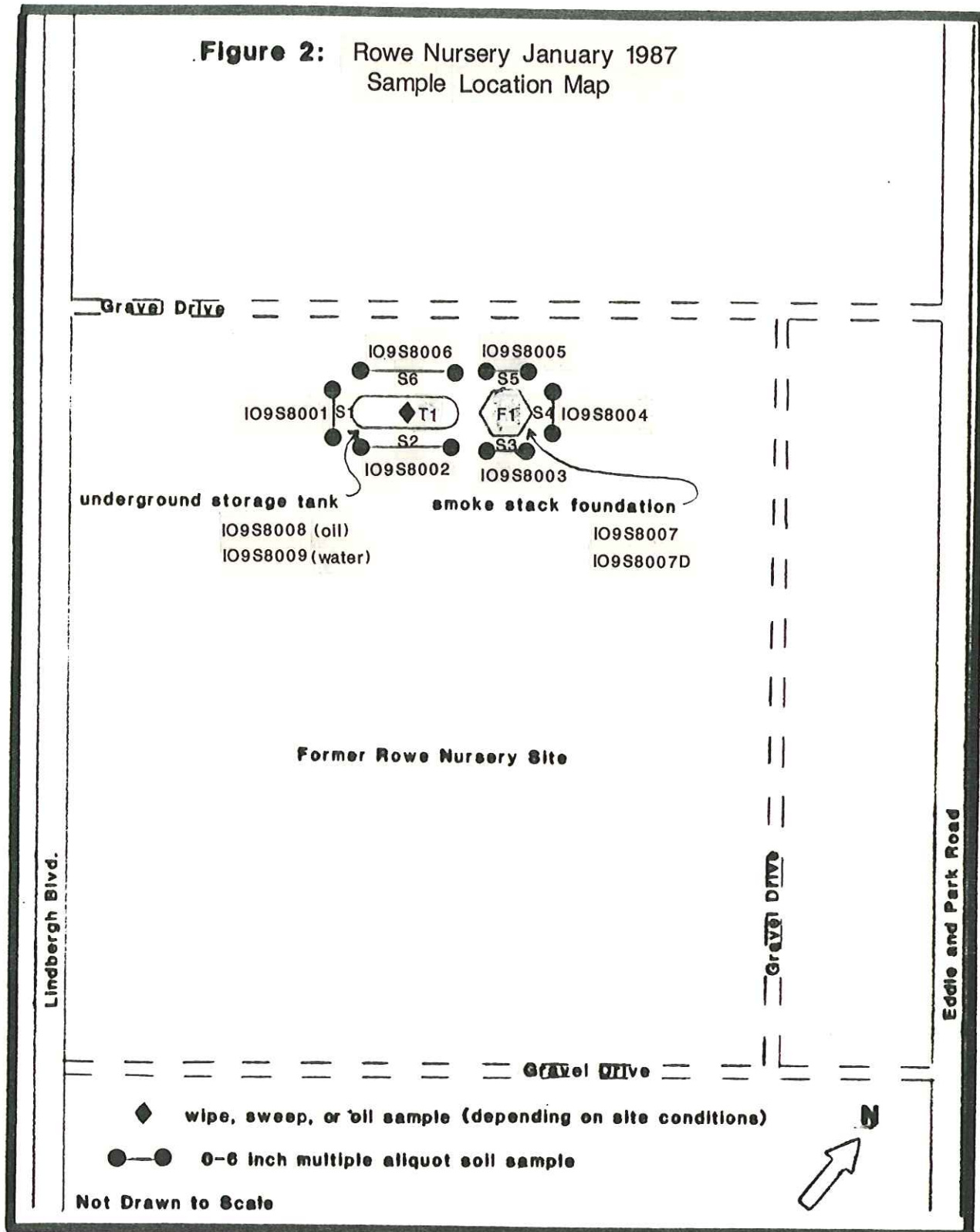
Foundation Sample

A soil and debris sample was collected from the foundation of the furnace stack on January 29, 1987. The sample consisted of five aliquots. Three of the aliquots were soil samples collected at a depth of 0 to 2 inches. The other two aliquots consisted of crushed brick from the furnace stack. The sample was thoroughly mixed and placed in an 8 ounce glass jar.

Storage Tank Samples

The storage tank contained a minimum of 3 inches of liquid. An 8 ounce glass jar was lowered into the tank to collect a portion of the liquid. The sample consisted of an oil layer and a water layer. The sample was placed in two 40 ml vials. One vial had the oil phase analyzed while the other vial had the water phase analyzed. The samples were collected on January 29, 1987.

Figure 2: Rowe Nursery January 1987
Sample Location Map



SAMPLE PACKAGING/DELIVERY

Each sample was placed in a plastic bag and sealed in a pint paint can filled with vermiculite. The cans were labeled with the appropriate D.O.T. labels and delivered to the Region VII EPA for TCDD analysis on February 2, 1987 at 0645 hours.

Analytical Results

The samples collected at the Rowe Nursery site were analyzed for 2,3,7,8-TCDD contamination. The soil samples (I09S8001-I09S8006), foundation sample (I09S8007, I09S8007D) and oil sample (I09S8008) did not contain TCDD at concentrations above the analytical detection limits. Table 1 lists the detection limits for the samples.

Table 1
Analytical Detection Limits for the
Rowe Nursery Samples

EPA Sample Number	Sample Location	Analytical Detection Limit
I09S8001	S-1	0.049 NG/GM
I09S8002	S-2	0.065 NG/GM
I09S8003	S-3	0.058 NG/GM
I09S8004	S-4	0.034 NG/GM
I09S8005	S-5	0.091 NG/GM
I09S8006	S-6	0.140 NG/GM
I09S8007	Foundation	0.022 NG/GM
I09S8007D	Foundation	0.045 NG/GM
I09S8008	Oil Phase from Storage Tank	0.180 NG/GM

The water phase sample collected from the underground storage tank contained 0.014 NG/L of 2,3,7,8-TCDD. The TCDD concentration is significantly below the current action level of 1 ppb.

CONCLUSIONS

The samples collected at the Rowe Nursery site in January, 1987 did not contain significant concentrations of TCDD. Only one sample (I09S8009) contained TCDD concentrations above the analytical detection limit. Based on the analytical results obtained for the samples, oil contaminated with TCDD was not used at the site.

NK/mh

DIDXIN RECENT REPORT 04/13/87

REPORT FOR SITE: ROWE NURSERY SUNSET HILLS MO.

SITE	EPA NO	VALUE	C	R	V	UNITS	SAMPLED	DESCRIPTION
ROW	I09S8001	0.049	U	V		NG/GM	01/26/87	LOC. S-1
ROW	I09S8002	0.065	U	V		NG/GM	01/26/87	LOC. S-2
ROW	I09S8003	0.058	U	V		NG/GM	01/26/87	LOC. S-3
ROW	I09S8004	0.034	U	V		NG/GM	01/26/87	LOC. S-4
ROW	I09S8005	0.091	U	V		NG/GM	01/26/87	LOC. S-5
ROW	I09S8006	0.140	U	V		NG/GM	01/26/87	LOC. S-6
ROW	I09S8007	0.022	U	V		NG/GM	01/29/87	FURNACE FOUADATION
ROW	I09S8007D	0.045	U	V		NG/GM	01/29/87	DUPLICATE OF I09S8007
ROW	I09S8008	0.180	U	V		NG/GM	01/29/87	OIL SAMPLE - UNDERGROUND STORAGE TANK
ROW	I09S8009	0.014		V		NG/L	01/29/87	UNDERGROUND STORAGE TANK

APR 16 1987
E&E K.C.K.